

PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional) SC11645ZP P01																									
Certificate of Transmission under 37 CFR 1.8 I hereby certify that this correspondence is being _____ facsimile transmitted or <u> X </u> e-filed to the United States Patent and Trademark Office - Mail Stop AF. on <u> 9-18-2006 </u> Signature <u> /Pat Thomas/ </u> Typed or printed name: Pat Thomas		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="padding: 5px;">Application Number</td> <td colspan="2" style="padding: 5px;">Filed</td> </tr> <tr> <td colspan="2" style="text-align: center; padding: 5px;">10/692548</td> <td colspan="2" style="text-align: center; padding: 5px;">10/24/2003</td> </tr> <tr> <td colspan="4" style="padding: 5px;">First Named Inventor</td> </tr> <tr> <td colspan="4" style="text-align: center; padding: 5px;">LIU, LIANJUN</td> </tr> <tr> <td colspan="2" style="padding: 5px;">Art Unit</td> <td colspan="2" style="padding: 5px;">Examiner</td> </tr> <tr> <td style="text-align: center; padding: 5px;">2832</td> <td colspan="3" style="text-align: center; padding: 5px;">Bernard Rojas</td> </tr> </table>		Application Number		Filed		10/692548		10/24/2003		First Named Inventor				LIU, LIANJUN				Art Unit		Examiner		2832	Bernard Rojas		
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<p>Applicant request review of the final rejection in the above identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <p>I am the</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p><input type="checkbox"/> applicant/inventor.</p> <p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)</p> <p><input checked="" type="checkbox"/> attorney or agent of record. Registration number: 50,714</p> <p><input type="checkbox"/> attorney or agent acting under 37 CFR 1.34 Registration number if acting under 37 CFR 1.34 _____</p> </div> <div style="width: 35%; text-align: right;"> <p>_____ /Kim-Marie Vo/ Signature</p> <p>_____ Kim-Marie Vo Typed or printed name</p> <p>_____ (512) 996-6839 Telephone number</p> <p>_____ Date</p> </div> </div>																											

☒ *Total of 1 forms are submitted

The collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality if governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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This Pre-Appeal Brief Review is proper because Applicants' claims have been rejected at least three times. More specifically, the claims were rejected in office actions dated: i) September 20, 2005 ii) February 6, 2006; and iii) June 19, 2006.

Status of Claims

Claims 1-5, 7-11, 13, 17, 18 and 20 are pending; all are rejected. Claims 1, 9, and 17 are independent and the rest of the pending claims depend from claims 1, 9, or 17.

Claims 1-4, 7, 9-11, 13, 17, 18 and 20 are patentable over Hsu in view of Lin and Cowen.

Applicants respectfully submit that claims 1-4, 7, 9-11, 13, 17, 18, and 20 are patentable over Hsu (US 6,768,403) in view of Lin (US 6,818,936) and Cowen (US 6,229,684) under 35 U.S.C. 103(a). Hsu, Lin, and Cowen, together or alone, fail to teach or suggest all features of independent claims 1, 9, and 17 and their dependencies (claims 2-8, 10-13, and 18-20). For example, Hsu, Lin, and Cowen, together or alone, fail to teach or suggest forming a dielectric layer over the sacrificial layer wherein the dielectric layer comprises silicon, oxygen, and nitrogen (e.g., silicon oxynitride) and wherein forming the dielectric layer occurs at a temperature between approximately 200 and 300 degrees Celsius, as included in claims 1, 9, and 17.

The Examiner relies upon Hsu to teach all features of the independent claims, except for two features: 1) forming the dielectric layer comprising silicon, oxygen, and nitrogen and 2) forming the dielectric layer at a temperature between approximately 200 and 300 degrees Celsius. The Examiner relies upon Lin to teach the first feature (forming the dielectric layer comprising silicon, oxygen, and nitrogen) and relies upon Cowen to teach the second feature (forming the dielectric layer at a temperature between approximately 200 and 300 degrees Celsius.) The disagreement between the Examiner and Applicants is with respect to the second feature: forming a dielectric layer...at a temperature between approximately 200 and 300 degrees Celsius.

Applicants submit there is no motivation to combine Cowen's teachings with that of Hsu and Lin and thus, such a combination is improper. Applicants and the Examiner agree that "obviousness can only be established by combining or modifying the teachings of the prior art...where there is some teaching, suggestion, or motivation to do

so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.” (See Page 2 of the final rejection.) Applicants submit Cowen teaches forming an HTS layer at a temperature less than 300 degrees Celsius. An HTS material is HTS material is a high temperature superconducting material, such as Yttrium Barium Copper Oxide (YBCO) or Thallium Barium Calcium copper Oxide (TBCCO). (Col. 5, lines 7-12.) Neither Hsu nor Lin uses a HTS material. One skilled in the art would not be motivated by Cowen to form a low temperature oxide at temperatures between 250 to 300 degrees Celsius in Hsu or Lin since no HTS materials exist in Hsu or Lin. In other words, since the reason Cowen teaches for forming the low temperature oxide does not hold for Hsu and Lin, one skilled in the art would not be motivated to use Cowen’s temperature range of 250 to 300 degrees Celsius in combination with Hsu or Lin.

The Examiner appears to agree with the above conclusion, but contends that nevertheless Cowen teaches forming an HTS material or a thick metal layer and since Hsu uses a metal layer as does Hsu one skilled in the art would combine Cowen’s teaching of forming an material at temperatures less than 300 degrees Celsius with Hsu. While Applicants agree that Cowen does teach forming an electrode from an HTS material or a thick metal layer, Applicants still disagree with the Examiner because Cowen fails to teach or suggest using the temperature range of less than 300 degrees Celsius for the metal layer and only teaches using this temperature range for the HST material. It is in an embodiment of the Cowen’s invention where the electrode is only an HTS material where Cowen teaches that the dielectric should be formed at temperatures less than 300 degrees Celsius. (Column 11, lines 59-66 state “According to the method of this aspect of the present invention...” and then explains that to protect the HTS material the dielectric should be formed at temperatures below 300 degrees Celsius. The aspect of the invention that is being referred to is that in the proceeding paragraph: column 11, lines 30-57, which states on lines 37-38 “a substrate electrode and capacitor electrode formed from an HTS material.”) There is no mention that this temperature would be required or used for the thick metal layer embodiments. Hence, Cowen’s temperature limitation only applies to embodiments where an HTS material is formed over a dielectric and since, as stated above, Hsu and Lin do not form HTS materials there is no motivation or suggestion to combine this temperature limitation with the teachings of Hsu and Lin. Thus, it is irrelevant for the present issue that Cowen also teaches forming an electrode of a thick metal, because it is only in the embodiments where the electrode (and capacitor) are of an HTS material for which the temperature limitation is taught and suggested to be used. Because as stated above, Hsu and Lin do

not teach or suggest using an HTS material, there is no motivation to protect an HTS material as Cowen teaches (by depositing the dielectric at temperatures less than 300 degrees Celsius.)

For at least the above reasons, claims 1-4, 7, 9-11, 13, 17, 18, and 20 are patentable over Hsu in view of Lin and Cowen under 35 U.S.C. 103(a).

Claims 5 and 8 are patentable over Hsu in view of Lin, Cowen and Murakami (US 2005/0156174).

Applicants respectfully submit claims 5 and 8 are patentable over Hsu in view of Lin, in view of Cowen and further in view of Murakami (US 2005/0156174) under 35 U.S.C. 103(a). As previously discussed, Hsu, Lin, and Cowen, fail to teach or suggest all features of independent claim 1, from which claims 5 and 8 depend. Murakami, alone or in combination with Hsu, Lin, and Cowen also fails to teach or suggest the features upon which the Examiner relies upon Hsu, Lin, and Cowen to teach or suggest. More specifically, Murakami, alone or in combination with Hsu, Lin, and Cowen, fails to teach or suggest forming a dielectric layer including silicon, oxygen, and nitrogen at a temperature between approximately 200 and 300 degrees Celsius. Murakami is silent as to the temperature at which to perform a dielectric layer. For at least this reason, claims 5 and 8 are patentable over Hsu, Lin, Cowen, and Murakami under 35 U.S.C. 103(a).